

## WHAT IS CLAIMED IS

1. A recycle system of aqueous paint comprising:
  - coating an article to be coated with an aqueous paint in a water-curtain-type coating booth,
  - 5 collecting an over-spray paint that does not adhere with the article by water-curtain,
  - sending the collected solution to a condensation bath through a booth circulation water bath,
  - separating it by a ultrafiltration apparatus into condensed paint and
  - 10 filtrate, the condensed paint being transferred to a paint tank, and
  - taking the condensed paint out of the paint tank if necessary to adjust, followed by coating it as an aqueous paint,
  - wherein a total amount of liquid present within the recycle system is controlled constant during spray-coating.
- 15 2. The recycling system of aqueous paint according to claim 1 wherein a total of a volume ( $V_w$ ) of the booth circulation water, a volume ( $V_x$ ) of the filtrate, a volume ( $V_y$ ) of the collected solution in the condensation bath, and a volume ( $V_z$ ) of the condensed paint in the paint tank, that is ( $V_w + V_x + V_y + V_z$ ), is kept constant.
- 20 3. The recycling system of aqueous paint according to claim 1, wherein, in case where the system further comprises a settling tank for storing the booth circulation water and a rinse tank for storing filtrate taking out of the filtrate bath, a total of a volume ( $V_w$ ) of the booth circulation water, a volume ( $V_x$ ) of the filtrate, a volume ( $V_y$ ) of the collected solution
- 25 in the condensation bath, a volume ( $V_z$ ) of the condensed paint in the paint

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tank, a volume ( $V_s$ ) of the booth circulation water in the settling tank and a volume ( $V_t$ ) of the filtrate in the rinse tank, that is ( $V_w+V_x+V_y+V_z+V_s+V_t$ ), is kept constant.

4. The recycle system of aqueous paint according to claim 1, wherein  
5 after operating the recycle system a certain period of time and stopping  
spray-coating, a necessary amount of the filtrate for cleaning the coating  
booth is sent from the filtrate bath to the spray-coating booth to clean inside  
the coating booth, and then sent to the condensation bath, followed by re-  
starting spray-coating; thus keeping the liquid content of the recycle system  
10 constant.

5. The recycle system of aqueous paint according to claim 1, wherein after operating the recycle system a certain period of time and stopping spray-coating, a necessary amount of the filtrate for cleaning the coating booth is sent from the filtrate bath to the spray-coating booth to clean inside the coating booth, and then spray-coating re-starts, followed by supplying water into the condensation bath, thus keeping the liquid content of the recycle system constant.

312B' 6. The recycle system of aqueous paint according to anyone of  
claims 1 to 5, wherein the condensed paint is adjusted by adding another  
aqueous paint and volatile component and re-used as aqueous paint.

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